

IMPACT OF BODY MASS INDEX ON FERTILITY OF MARRIED WOMEN OF COIMBATORE DISTRICT

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Abstract

Fertility is the capacity to produce offspring, whereas fecundity is a woman's biological ability to reproduce based on the monthly probability of conception (Wood, 1989). Clinical infertility is defined as the inability to become pregnant after 12 months of coitus. It has been estimated that approximately 15% of the population in industrially developed countries are affected by infertility. (Healy et al., 1994). Fertility is a universal human concern and anguish over infertility is an obvious consequence of that concern. Millions of people all over the world are confronted with the problem of people all over the world are confronted with the problem of infertility. Infertility is a product of biological and environmental factors. The revised definition of infertility by the World Health Organization characteristics primary infertility as the percentage of never-pregnant women exposed to the risk of pregnancy for at least two years without conceiving. It characterizes secondary infertility as a situation in which a couple has previously conceived, but is unable to conceive subsequently, despite cohabitation and exposure to pregnancy for a period of two or more years (UNFPA, 2002). The causes of infertility are wide ranging including diagnoses such as, ovulatory disorders, tubal disease, endometriosis, chromosomal abnormalities, sperm factors and unexplained infertility. The impact of lifestyle on reproductive performance may vary depending on individual etiology and circumstances.

Keywords: biological ability, infertility, ovulatory disorders, sperm factors, World Health Organization, Life Style

Culture and Life Style

In many cultures, childlessness greatly influences the course of the lives of married couples. In Indian culture the role of motherhood is inscribed in the personality of a girl child from childhood itself, either by encouraging the child to play motherly roles of caring for younger siblings, or by only allowing her to play with dolls around the house. The reproductive role of women is highly recognized in these settings and the onset of puberty is joyously marked, accompanied by celebrations that declare the girl's fertility and announce her capability for future motherhood.

Yet, in India, little attention is paid to the problem of childlessness treatment, which has a devastating impact on couples that experience it. Lifestyle factors are behaviours and circumstances that are, or were once, modifiable and can be a contributing factor to sub-fertility.

Every aspect of human health is impacted by what we eat, and fertility is no exception. Few of us get the nutrition we need from our diet. On the contrary, human beings may fill our plates with high fat, high sugar and low fiber foods. These consumption habits do little to maintain human reproductive systems, and in fact can compromise fertility. In India, the girl is made to eat nourishing food like coconut, milk and ghee, and this process may continue for a few days or months, and sometimes even years, after her

first menstruation. The main idea behind providing her with nourishing foods is to strengthen the girl's reproductive organs and thus facilitate the process of child bearing in the near future. Indians are very cautious about the life style which is healthy and these healthy practices have been followed in the name of ritual practices till now in many Indian family. It is believed in Indian Family that eating a healthy and varied diet is considered to be a key part of maintaining overall health.

Life Style factors and Infertility

Life style factors have had a dramatic impact on general health and the capacity to reproduce. Lifestyle issues such as smoking and obesity can affect general health and well-being. There is an increasing body of evidence that lifestyle factors can impact on reproductive performance. For example, studies have demonstrated that smoking in women significantly decreases the chance of conception (Hughes and Brennan, 1996; Augood et al., 1998). Post-industrial western society has created the potential for increasing the exposure to specific lifestyle factors and behaviours that can positively or negatively affect reproductive health. For example, obesity is often associated with lack of exercise and inappropriate diet (Cameron et al., 2003), delayed child bearing, smoking and exposure to environmental pollutants and chemicals.

The life style factors affect the BMI (Body Mass index) of the person which may lead to extreme thinning or fattening of the individual's persona, which would worsen their health and affects their reproductive health directly or indirectly. Keeping all these in mind an attempt is been made to know the impact of BMI among the women who undergo Infertility treatment in Coimbatore.

Materials and Methods

The study was conducted in various fertility centres and hospital in and around Coimbatore, and researcher managed to collect 500 samples of married women infertile patients who visited hospital from September 2014 to January 2015 for the treatment to uphold their fertility.

BMI and Infertility among Women

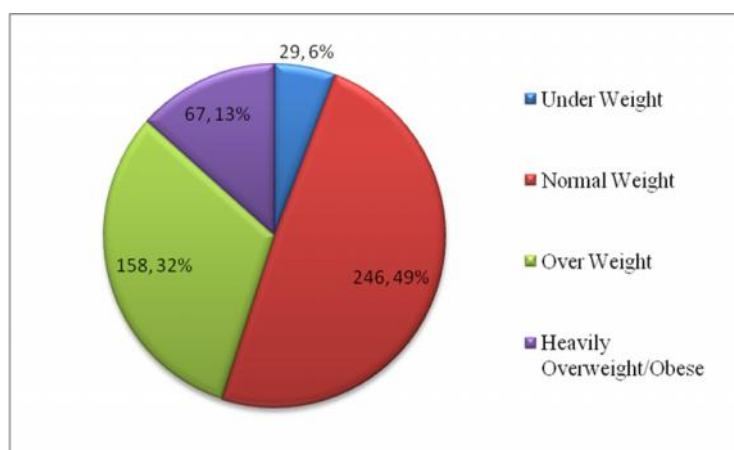
Being underweight or over weight has an adverse effect on reproduction. Although obesity have been demonstrated to substantially reduce fertility among population and to greatly reduce pregnancy rates of women. Obesity is on the rise and the health implications are grave. One of the best documental effects is the disruption o normal menstrual and hormonal function, which can lead directly to infertility. In contrast, inadequate body fat can also interfere with the menstrual cycle and hormonal balance, producing the same results. Women with eating disorders have a disproportionately high rate of infertility, too low Body Mass Index (BMI) can affect stimulation of gonads of women. A higher BMI leads to

increased insulin resistance, increased intra follicular leptin levels, increased risk of infertility, also of spontaneous abortions, decrease in outcome of pregnancy.

Table 1: Body Mass Index of the Infertile Women Patients

BMI	Frequency	Percent
Under Weight	29	5.8
Normal Weight	246	49.2
Over Weight	158	31.6
Heavily Overweight / Obese	67	13.4
Total	500	100.0

Source: Primary Data



The above table reveals the Body Mass Index of the respondents, where 246 of the respondents were under normal weight, 31.6 per cent of the respondents were Overweight, 67 respondents were Obese or heavily over weight and 5.8 per cent of the respondents were under weight. Women at less than normal BMI should work with their doctor to understand the cause of this situation, and develop strategies to correct it.

Pregnancy Status of the Respondents

In a few cases, it is found that pregnancy was conceived, but for a short while. That is, due to some reasons such as psychological feeling, accident, etc., it was aborted, and in other few cases the women who prefer to have second child was not able to conceive those women were considered as secondary infertility patients. For this purpose the information whether the respondents were pregnant earlier or not is collected and collected information is represented under.

Table 2: Pregnancy Status of the Respondents

Pregnant Earlier	Frequency	Percent
Yes	186	37.2
No	314	62.8
Total	500	100.0

Source: Primary Data

The above table disclosed the pregnancy status of the respondents after their marriage. The table disclosed that clear majority of the respondents numbering 314 (62.8 %) have not been pregnant even for a long period and remaining 186 (37.2%) respondents admitted that they were pregnant and had one child after their pregnancy. The analysis of the table explains the majority of the respondents was pregnant for a short while or never been pregnant and remaining of respondents were pregnant for a one child and they are for treatment for second one. It shows that majority of the respondents were not pregnant for a short period or never been pregnant who will be considered as Primary Infertility patients.

Relationship between BMI and Pregnancy Status

An individual's weight is often associated with her eating habits and amount of activity. A woman's weight can affect her fertility. It is known that at both extremes, very thin and obese, that there can be disruption of the normal process of regular, consistent ovulation. An ovulation can often result. Medications can be used to induce ovulation in women, who is having abnormal weight either too thin or fat, in an attempt to become pregnant. BMI is an index of a person's relative "skinniness or heaviness". The BMI factors in a person's weight and their height to give an overall "index". If it is below 18.5 it is considered underweight, between 18.5 and 24.9 is normal, above 25 is overweight, and over 30 is considered obese. Body weight can have significant effects on health, including cardiovascular disease, diabetes, and infertility, Chi-square test of independence is used to analyse whether there is relationship between Body Mass Index and Fertility (Pregnancy Status) of the respondents. Hypotheses was framed likewise

Null hypothesis: There is no relationship between BMI and Pregnancy Status of the respondents.

Alternate Hypothesis: There is relationship between BMI and Pregnancy Status of the respondents.

Table 3: Relationship between BMI and Pregnancy Status

Ever been Pregnant * BMI Cross tabulation						
		BMI				
Ever been Pregnant		Under Weight	Normal Weight	Over Weight	Heavily Overweight/Obese	Total
	Yes		0	74	81	31
No		29	172	77	36	314
Total		29	246	158	67	500

Source: Primary Data

Chi-Square Tests			
BMI and Ever Been Preg.	Value	df	Asymp. Sig. (2 sided)
Pearson Chi-Square	38.254 ^a	3	.000
Likelihood Ratio	47.687	3	.000
Linear-by-Linear Association	27.518	1	.000
N of valid Cases	500		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.79.

Since the P-value (0.001) is less than the significance level (0.05), we cannot accept the null hypothesis. Thus, we conclude that there is a relationship between BMI and Pregnancy status of the women.

Conclusion

The present study has revealed that the fertility of women is significantly associated with Body Mass Index. The findings of the study illustrated that more than half of the women in the total sample were abnormal in weight as their weight is to be considered as either under weight or Obese and most of the women had normal weight. It can be concluded that infertile women are having abnormal weight. Therefore women should maintain their weight and maintain their weight stable to increase their fertility, and lead to successful full term pregnancies. Information regarding effect of overweight in fertility and ways to maintain their fertility will help to create awareness among the women to enhance their fertility. Hence, awareness can be created to explain and motivate the infertility and enhance its management.

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